

5 (new) The modulation stage of claim ~~8~~⁴, wherein the discrete-time sampling circuit includes a logic circuit for suppressing sampling of the input signal for a set number of clock cycles of a sampling frequency clock.

6 (new) The modulation stage of claim ~~8~~⁵, wherein the logic circuit includes a transition detector for detecting a transition in the output signal.

7 (new) The modulation stage of claim ~~7~~⁴, wherein the output signal has a multi-state output, having at least three states.

REMARKS

The above identified patent application has been amended and reconsideration and reexamination are hereby requested.

The Official Draftsperson has objected to the Drawings. Appropriate corrected formal drawings will be provided upon receipt of a Notice of Allowance.

The Applicants have amended Fig. 5 to eliminate extraneous numbering and correct numbering lettering errors.

The Examiner has rejected Claims 1 - 3 under 35 U.S.C. §102(e) as being anticipated by Chan.

Applicants have amended Claim 1 to call for (underlining added for emphasis) ... A modulation stage for signal shaping comprising: means for preliminary noise-shaping of an input signal; and discrete-time sampling means having a predetermined sampling frequency, the discrete-time sampling means being coupled to the noise-shaping means to produce an output signal with a lower transition rate with respect to said sampling frequency by a predetermined multiple, the output signal with a lower transition rate being fed back to the means for preliminary noise-shaping to sum with the input signal.

As such, Applicants submit that Claim 1 is not anticipated by Chan under 35 U.S.C. §102(e).

The present invention includes a noise shaping network connected in series with a comparator whose output signal is fed back to the noise shaping network via a summation element. A discrete-time sampler coupled to the comparator produces the output signal with a lower transition rate with respect to said sampling frequency by a predetermined multiple. The output signal with a lower transition rate is also fed back to the means for preliminary noise-shaping to sum with the input signal.

Chan, on the other hand, while providing a circuit for attenuating noise in a data converter does not utilize any output signal with a lower transition rate being fed back to sum with the input signal.

Accordingly, Applicants submit that Claim 1 is not anticipated by Chan under 35 U.S.C. §102(e).

Claims 2 and 3 are dependent on Claim 1. As such, these dependent claims are believed allowable based upon Claim 1.

New Claim 7 similarly calls for (underlining added for emphasis) ... the discrete-time sampling circuit coupled to the noise shaping network to generate an output signal with a lower transition rate with respect to the predetermined sampling frequency by a predetermined multiple, the output signal with a lower transition rate being fed back to the noise-shaping network to sum with the input signal. New Claims 8 - 10 are dependent on Claim 7. As such, Claims 7 - 10 are also believed allowable for the same reasons set forth above for Claims 1 - 3.

Accordingly, in view of the above amendment and remarks it is submitted that the claims are patentably distinct over the prior art and that all the rejections to the claims have been overcome. Reconsideration and reexamination of the above Application is requested.

Application No. 09/768,674

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CLAIM CHANGES MADE

(underlinings indicated additions; brackets indicate deletions)

1.(amended) A modulation stage for signal shaping comprising:

means for preliminary noise-shaping of an input signal; and
[means for] discrete-time sampling means having a predetermined sampling frequency, the discrete-time sampling means being coupled to the noise-shaping means to produce an output signal with a lower transition rate with respect to said sampling frequency by a predetermined multiple, the output signal with a lower transition rate being fed back to the means for preliminary noise-shaping to sum with the input signal.

2.(amended) A modulation stage for signal shaping of claim 1 wherein the [means for] discrete-time sampling means [further comprises] includes means for suppressing sampling of the input signal for a set number of clock cycles.

3.(amended) A modulation stage for signal shaping of claim 2 wherein the means for suppressing sampling [comprises] includes means for detecting a transition in the output signal.